

REMARKS/ARGUMENTS

In the above-mentioned Final Rejection, claims 44-48, 50-55, 57-62, 65, 67, 69, 71-73 and 75-77 were rejected as being anticipated by U.S. Patent 4,061,808 (Sato), and claims 44-78 were rejected as being unpatentable over Sato. In response thereto, claims 19, 44, 50, 57, 65, 67, 69, 73, and 77 are amended.

Many of the claims have been amended to use the descriptive phrase "adapted to." Language in the body of the claim following the description phrase "adapted to" is a structural limitation, as a matter of law. For example, in *In re Venezia*, 189 U.S.P.Q. 149 (CCPA 1976), some of the claim language at issue was "a pair of elastic sleeves ... adapted to be fitted over the insulating jacket of one of said cables." *Id.* at 150. Concerning the above quoted aspect of the claim, the CCPA stated that: "rather than being a mere direction of activities to take place in the future, this language imparts a structural limitation to the sleeve. Each sleeve is constructed or dimensioned so that it can be fitted over the insulating jacket of the cable." *Id.* at 151-152, emphasis added.

It is also well-settled that all limitations must be considered and it is improper to ignore specific limitations in the claim that distinguish over the cited references. See, e.g., *In re Boe and Duke*, 184 U.S.P.Q. 38, 40 (CCPA 1974). Accordingly, Applicants respectfully submit that respective portions of the claims that follow the descriptive phrase "adapted to" are structural limitations that must be afforded the same weight as any other limitations recited in the body of the claim.

I. The Sato Patent.

The Sato patent, which is entitled "Composite Label Strip for Use with Label Applying Apparatus," does not teach the construction of the present invention and claims. In order to fully comprehend the intent of the Sato invention, some of the details of how label applicators are designed and how they function must first be understood.

It is common practice, for the repeated application of self adhesive labels onto secondary surfaces such as manufactured products or product packaging, to first form the labels on a piece of manufacturing equipment commonly referred to in the industry as a converting press. The converting press accepts a roll of laminated label stock,

consisting of a face material, a pressure sensitive adhesive, and a release agent (usually silicon) applied to a release liner. The converting press will commonly print text and/or graphics onto the label and/or liner surface, create die cuts, scores, or perforations through one layer (face or liner) or both layers (face and liner), remove the matrix (unnecessary face material around the labels), slit the material into narrower widths, and rewind them onto cores (usually cardboard tubes) to form finished rolls. These finished rolls are then removed from the converting press for later use in label applicators.

When the label applicator receives the roll of labels, the material is fed through the label applicator and, at one point in the process, the material is pulled, under tension, around a relatively sharp corner, commonly called a peeler blade. The purpose and function of the peeler blade is at the core of the Sato invention, so it is critical that every aspect of this process be fully understood.

When the continuous strip of material is pulled around the fixed, relatively sharp corner referred to as the peeler blade, several events occur, both concurrently and in rapid sequence. In the most common scenario, the labels on the continuous strip will be discontinuous, in that there is commonly a matrix around the labels that has been removed. In that case there will be a series of similar or identical labels adhered to the release liner, which is a continuous strip, but separated from each other with the release agent on the release liner exposed both between and around the labels. When utilizing this style of label rolls, there is commonly either a mechanical or an optical switch that can either sense the difference in thickness or the difference in opacity between the label/liner laminate and the liner without the labels. In this way, the label applicator can be made to stop with the label positioned in a desired repeatable location with regard to the label peeler blade. As a product or package is sensed to be passing near the peeler blade, a signal will be sent to the label applicator to start pulling the label material around the peeler blade. This action will continue until the next label in the sequence is in the desired position with regard to the label peeler, and then the applicator will stop pulling the material around the label peeler.

When this functions properly, as the release liner is sliding around the peeler blade, the edge of the label approaches the peeler blade. As the label moves toward and then starts to go around the peeler blade, the motion of the label liner goes from a straight linear motion to turning around a relatively tight radius. When the edge of the label begins to be pulled around the radius with the liner, the stiffness of the face material and, to a lesser extent, the stiffness of the adhesive counteracts the force created by the bond between the adhesive and the release agent that is trying to pull the face material around the radius of the peeler blade. Because this is the 'tip' of the label, the mechanical analogy is that the bending force of the adhesive is being applied at the end of a beam, thus having the greatest leverage, so if there is one point in the process where the adhesive bond could be sufficient to pull the label around the radius of the peeler blade, it is right at the beginning of the label. Once the end of the label separates from the liner, then the difference between the force created by the pulling of the adhesive and the resistive force created by the stiffness of the label is greater. Besides the leverage factor (now pulling from further up the "beam"), it is common for the label to become adhered to the secondary surface as it passes underneath the label peeler blade. This keeps the label under tension and eliminates the possibility that the label will be pulled back around the peeler blade by the adhesive bond to the release agent.

The reason for the above detailed explanation is that the key objective of Sato is to improve the likelihood of the label separating from the liner at the leading edge by moving an aggravating factor away from the edge to a point further into the label, where it is less likely to have a negative impact.

The type of labels that Sato is addressing is similar in some ways to the labels above, and different in some ways. The labels consist of a face material, a pressure sensitive adhesive, a release agent, and a release liner, just like the labels described above. The key difference is that they do not have a matrix between the labels or on either side of the labels. This approach is the most efficient and lowest cost use of materials, because no face material or adhesive is wasted during the converting

process, other than normal production generated waste and possibly some trim on the outer edges of the original roll of material.

The difficulty that is created is that there is no gap between the labels where there is liner material only, so one cannot use the difference between the label/liner laminate and the liner alone to keep the labels in proper registration. The method used in this case is to create perforations through the face and liner in the original converting process, and then have teeth on a rotating cylinder that engage the perforations in the same way that a sprocket on a bicycle engages the links on the bicycle chain. This mechanism is shown by Sato in FIG. 11. By engaging the perforations with the teeth both before and after the peeler section, the pull on the web after the peeler blade is matched by the feeding of the web prior to the peeler. It is common practice to have the perforations coincident with the die cuts between the labels, so that the labels themselves are not disrupted by the presence of perforations in the label. The novelty of Sato is that it challenges this paradigm and places the perforations in the middle of the labels, recognizing that for many label applications this would be acceptable and possibly even desirable (for example in self-destructing pricing labels that come off in pieces when removed in order to prevent price switching).

The reason why Sato has some value is that there are several aggravating factors that make the initial separation and dispensing of the labels more difficult in the type of labels (no matrix) that are used in the application machines that concern Sato.

One aggravating factor is that, using this methodology, the tension going around the peeler blade may be low or even non-existent, so the machinery manufacturers commonly adds supporting surfaces both above and below the peeler blade, as shown in FIGS. 5, 11, and 12. These supporting surfaces are another way of directing the label to continue to follow a linear path while directing the liner to turn a tight radius, as described above. Although the low or non-existent web tension required for this variation of label dispensing is advantageous in that it is less likely that the web will break as it goes around the peeler blade, it is an aggravating factor with regard to the separation of the label from the liner. Because the liner may be suspended in mid air as it makes the turn around the peeler blade, the liner can flex in ways that reduce the

tension and separating force initially, which is aggravated by the presence of perforations in the liner at the edge of the label. The sharp bend that is created because of the low tension and the affect of the weakening lines to create a hinge may then cause the liner to separate and break. Sato places the perforations away from the edge of the label, eliminating that issue.

A second aggravating factor of prior art (before Sato) is that in the process of forming the perforations at the die cuts between the labels, a certain amount of the adhesive that is present between the face and the liner will be pushed into the perforations by the die cutting blades. Sato describes a two-stage converting process whereby the face cut is first created (FIG. 2(A)) and then a secondary cut creating the perforation is made that is coincident with the first cut (FIG. 2(B)). Because it is a two stage operation and the perforations extend through the contact surface that contains the release agent (usually silicon), the adhesive may rebond between stages and then may be driven into the perforation and allowed to come in contact with the paper fibers that are surrounding the perforation holes, as shown by Sato in Figure 2(C). Because there is no release agent on those fibers, the adhesive is able to form a much stronger bond to those paper fibers (Sato describes this effect in column 3, lines 32-39 and lines 58-68, and in column 4, lines 11-16). When it is time to separate the edge of the label from the liner, the adhesive bond to the paper fibers in the perforation resists the separation of the face material from the liner and increases the likelihood that the label will not separate and dispense properly. Sato also eliminates this concern, as the place where the adhesive bonds to the fibers in the perforations has been moved away from the edge of the label to a place where the detrimental affect is less likely to result in a failure of the label to separate and dispense, due to the reasons described above.

A third aggravating factor is that adhesive that was not originally driven into the perforation by the die cutting and perforation action can still flow into the exposed paper fibers in the perforations. This is called cold flowing of the adhesive. In the same way that the movement of a glacier may not be readily visible, but it is clearly present, adhesive can and often does move over time to fill open gaps and to bond to surfaces

to which it is attracted. This has the same affect as described above, and aggravates the above condition further, increasing the need for, and benefit of the Sato invention.

It is within this context and for this purpose that the Sato invention was created and needs to be understood. This does not consider or teach any of the operating principals of the present invention, which is designed with a completely different purpose in mind.

II. The Present Invention and the Examiner's Rejections

The purpose of the present invention is to use cuts in the matrix and/or liner around the labels to create a hinge point in the sheet for manual separation of the labels. Sato attempts to eliminate a hinge point. The present invention adds one or more hinge points that are offset from the edge of the sheet. In Sato, separation of the label from the liner takes place long before the separation crosses the perforation. In the present invention, the hinge point facilitates the separation. Sato is concerned with adhesive getting into the paper fibers at the perforation. The present invention is not concerned with paper fibers contacting the adhesive, as there is no perforation near the edge of the label or through the label. This clearly demonstrates that the two inventions are completely different in purpose, intent, and execution.

The examiner, in attempting to clarify Sato, describing FIGS. 6 or 8, notes that "the liner has thereon a plurality of units (28)", but then states that "every other unit (28) is taken to be a label". This is not a correct understanding of the construction. In fact, every single unit is a label. It should be noted in FIG. 6 that each unit carries the same numerical indicator (28), indicating that it is the inventor's intent to indicate that these are a series of identical labels, not labels alternating with a non-label. In the first paragraph of Sato's patent, Sato describes the invention relating to "... a composite label strip, in which a consecutive series of labels of the same size are releasably adhered to a backing strip." (Emphasis Added)

It is therefore evident that the perforations (29) are within the labels themselves, and not on some material adjacent to the labels. Each cut line (30) through the facestock and not the liner would form the end of one label and the beginning of the

next label. The perforated line (29) located in the unit (28) is clearly repeated in the approximate center of each label unit (28), and is not "between two other units (28)", as claimed by the examiner. In addition, the examiner claims that "[T]he perforation line (29) located in unit (28) between two other units (28) is shown to be the weakening line segment in the facestock and extending substantially between the first and second label units." It is clear that, firstly, the perforation (29) is clearly placed within the bounds of each consecutive label unit (28), and is not between the label units as the examiner claims, since each unit (28) is a label. Secondly, it is clear from FIGS. 5, 6, 7, 8, 9, 10, 11, and 12 that the perforation (29) extends through both the facestock and the liner, not the facestock only, as the examiner claims. This can be easily seen, for example, in FIG. 6, where the facestock and liner have been separated, and the perforation (29) is annotated in both the first label (28) and the liner material (27) below, but it can also be seen in the cross sectional view of the perforation in FIGS. 7 and 9, as well as the other views noted. It is in fact necessary for the perforation to extend through both the facestock and the liner, as it is designed to be engaged by a toothed feed roller as shown in FIG. 11, where the teeth on the wheel pass all the way through the label construction first from the liner side, then, after the labels have been removed, through the other side of the liner that remains.

Finally, the examiner claims that "[T]he facestock sheet being bendable as shown in Figure 12 and the bendability provides for the label to be separated from the liner when bent as per Figure 12". This statement contradicts the evidence, in that it is the bendability of the liner which allows the label to be separated from the liner. It is, in fact, just the opposite of what the examiner claims, in that it is the stiffness (not the bendability) of the facestock that facilitates the separation of the label from the liner. It is also clear in FIG. 12 that the mechanism which separates the liner and the facestock is the arrangement of the plates, not the presence of the perforation. Sato in fact, describes the perforation as a feeding perforation in column 5, line 31, in that it is designed to be engaged with the teeth of the feed roller to drive the web, and has nothing else to do with label dispensing. It is Sato's intent to move the perforation (29) away from the cut liner (30) to keep an adhesive from being driven into the perforation

and forming a bond to the exposed liner paper fibers, and to keep this area from being weakened to such an extent as to cause it to fold and create a sharp corner that is subject to tearing. In the Description of the Preferred Embodiment, starting in the last line of column 5 and continuing in column 6, Sato states "the perforations 29 are not aligned with the cut portions 30 of the labels 28. Thus, the agglutinated (bonded by adhesion) portions 38 between the label cut ends 37 and the backing strip 4 that were discussed with reference to FIGS. 2 (C) and 5 are not found at the leading edge of the labels 28. This makes it possible to smoothly start the peeling of the leading label 28 from the backing strip 27." In addition, because perfect alignment with the face cuts is not required, the perforations can be cut from the underside through the label construction, as described in column 5, lines 55-61, so the adhesive is pushed into the label and not the liner, and therefore does not form a substantial bond to the paper fibers in the liner, providing an additional advantage. The separation of the label from the liner begins long before the separation line reaches the perforations, and it is Sato's intent only to minimize or eliminate any impedance to separation that would be caused by the presence of the perforation at the cut line. On the other hand, it is the intent of the present invention to facilitate the separation of the face and the liner by the use of a face cut in the material surrounding the label, which is entirely different.

In section 5 of the Claims rejection by the examiner, the examiner repeats the incorrect statement that "The label is taken to be at least on unit (28), spaced from a second label by an intermediate unit..." As shown previously, the labels are consecutive and have no intermediate units. The arguments that follow are based on the incorrect understanding of the examiner that there are intermediate units; however this is clearly contradicted by the evidence in the Sato patent. In the present invention, the weakening lines in the facestock are outside of the label and approximately perpendicular to the closest label edge, whereas in the Sato patent, the perforations through the entire label construction are inside the label and approximately parallel to the closest edge between the adjacent labels.

Finally, with regard to the statement that "[I]t would have been obvious matter of design choice to modify Sato's label by providing a burst configuration with long and

short points because such a change would have involved a mere change in the shape of a product for aesthetic appeal", this again does not agree with the evidence at hand. First of all, Sato only is useful for labels that are consecutive, separated only by a cut line. It is impossible to create a circular burst configuration with long and short points without some material between the labels.

If (for the sake of argument) labels in a burst configuration were desired to be placed on a continuous web for the purposes of automated application through the use of a label applicator, the only way to do this would be to keep the labels separate from each other. It would also be advantageous to remove the matrix between the labels (creating a series of labels that are not in contact with each other or any material between the labels). One could then use mechanical or optical switches to detect the label position, as described earlier in this document, and there would be no need for feeding perforations. Therefore, Sato has no relevance to the automatic application of burst labels, and is even further removed from hand application of such labels.

It should be evident, once the proper understanding has been achieved, that Sato has no bearing whatsoever on the present invention as claimed, based on the evidence at hand and the understanding of the processes involved.

III. The Claims

Further discussions of why the independent claims are patentable follow.

Independent claim 19 includes first and second labels (of the facestock sheet) releasably adhered to the liner sheet, a weakened line segment in the facestock sheet and extending at least substantially between the first and second labels, and the facestock sheet being bendable back on the weakened line segment to thereby separate the liner sheet away from a portion of the first label whereby the label portion can be grasped by a user and the first label peeled off of the liner sheet.

Independent claim 44 includes a first weakened line segment in the facestock sheet on one side of the label. The first weakened line segment is a cut line through the facestock sheet to the liner sheet. The facestock sheet is bendable back on the line to

thereby separate the liner sheet away from a portion of the label, such that the label portion can be grasped by a user and the label peeled off of the liner sheet.

Independent claim 50 includes line segments on the facestock sheet on opposite sides of the label wherein the line segments are spaced from and do not engage the label. The facestock sheet is bendable back on the line to thereby separate the liner sheet away from a portion of the label such that the label portion can be grasped by a user and the label peeled off the liner sheet.

Independent claim 57 includes first and second weakened line segments on opposite sides of the label and defining a first line, and third and fourth weakened line segments on opposite sides of the label and defining a second line, the second line passing through a portion of the label closer to the center of the label than the first line, the second line being spaced from and generally parallel to the first line. The facestock sheet is bendable back on the first and second lines to thereby pull the liner sheet away from a portion of the label, whereby the label portion can be grasped by a user and the label peeled off of the liner sheet.

Independent claim 65 includes first and second line segments in the facestock sheet on opposite sides of the label where the line segments do not penetrate the liner sheet. The facestock sheet is bendable back on the line defined by the line segments to thereby separate the liner sheet away from a portion of the liner such that the label portion can be grasped by a user and the label peeled off of the liner sheet.

Independent claim 67 includes a cut line through a facestock sheet and forming a label which is positioned within a perimeter of the facestock and spaced a distance inward of side and edges of the perimeter. First and second line segments on opposite sides of the label lie on the same line. The facestock sheet is bendable back on this line to thereby separate the liner sheet away from a portion of the label such that the label portion can be grasped by a user and the label peeled off of the liner sheet.

Independent claim 69 includes at least one cut line through the facestock sheet but not the liner sheet to form a label, and also at least one facestock waste portion outside of the label. First and second line segments in the facestock sheet on opposite sides of the label lie on the same line. The line segments are on the waste portion, and

not on the label. The facestock sheet is bendable back on the line to thereby separate the liner sheet away from the portion of the label such that the label portion can be grasped by a user and the label peeled off of the liner sheet.

Independent claim 73 includes a weakened fold line of a facestock sheet that is die cut through the facestock sheet but does not penetrate the liner sheet which is adhered to the facestock sheet. The facestock sheet includes a line of facestock sheet labels. The facestock sheet is bendable back on the weakened fold line to thereby separate the liner sheet away from portions of the aligned labels such that the label portions can be individually grasped by a user and the labels individually peeled off of the liner sheet.

Independent claim 75 includes a facestock sheet including a line of facestock sheet labels and a weakened fold line. The facestock sheet, which is adhered to an underlying liner sheet, is bendable back on the weakened fold line to separate the liner sheet away from portions of the aligned labels whereby the label portions can be individually grasped by a user and the labels individually peeled of the liner sheet and away from the surrounding portions of the facestock sheet.

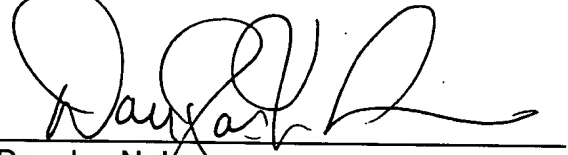
Independent claim 77 includes a facestock sheet including a line of spaced facestock sheet labels and a weakened fold line. The facestock sheet is adhered to an underlying liner sheet. The facestock sheet further includes at least one facestock waste portion wherein the weakened fold line is on the facestock waste portion and not on any of the labels. The facestock sheet is bendable back on the weakened fold line to thereby separate the liner sheet away from portions of the aligned labels whereby the label portions can be individually grasped by a user and the labels individually peeled off of the liner sheet.

IV. Concluding Remarks

Accordingly, it is respectfully submitted that the subject application is in condition for allowance and early issuance of the Notice of Allowance is in order. If there are any remaining issues, the Examiner is encouraged to telephone counsel (at counsel's telephone number set forth below) to seek to resolve them.

The Commissioner is hereby authorized to charge any additional fees which may be required, or credit any overpayment to Deposit Account No. 07-1853. Should such additional fees be associated with an extension of time, Applicants respectfully request that this paper be considered a petition therefor.

Respectfully submitted,



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